## XXXVI. *An Account of ſome poiſonous Fiſh in* The South Seas. *In a Letter to Sir* John Pringle, *Bart. P. R. S. from Mr.* William Anderſon, *late Surgeon's Mate on board His Majeſty's Ship the* Reſolution, *now Surgeon of that Ship.*

TO SIR JOHN PRINGLE, BART. P. R. S.

SIR,

Reſolution,
Deptford, April 23, 1776.

R. June 6, 1776. IN compliance with your requeſt I have ſent you the few notes which I had taken of the caſes of ſome of our ſhip's company, who, on our late voyage to the South Sea, had experienced the bad effects of eating certain fiſh of a poiſonous nature. I was, perhaps, leſs ſolicitous about remarking the minute circumſtances attending their illneſs, as I then believed it was a diſorder well known in the Weſt Indies, having frequently heard of people being poiſoned, as it is commonly expreſſed, by eating ſome particular kinds of fiſh; but, as far as I have been able to inquire ſince of thoſe who have been there, or from books, I do not find that any tolerable account either of the diſeaſe, or of the means of curing it, has been made public.

This being the caſe, it is almoſt needleſs to ſay, that in treating the diſorder we could have no method founded on

on experience to purſue, and therefore were obliged to palliate the ſymptoms, from the analogy they bore to thoſe that occur in other diſeaſes. From a ſuppoſition, that ſome of the matter, which cauſed the illneſs, might lie indigeſted in the ſtomach, Mr. PATTEN, the ſurgeon, ordered ſome warm water to be drunk, in order to make the patients vomit; which effect it had with ſome of them, and they were a little relieved by it. After the *nauſea* had ceaſed, he gave ſome weak portable ſoup, as a diluent; and for the moſt troubleſome ſymptom, *viz.* the heat on the ſurface of the body, he preſcribed a ſudorific julep, whereof the active ingredients were the antimonial wine and *ſpiritus mindereri*. This, in ſome meaſure, had the deſired effect, as it brought on a breathing ſweat, which, for the time it continued, abated the violence of the pains. No other medicines were uſed, excepting ſome purging ſalts, for preventing inflammation, in two or three, whoſe mouths and throats had been more particularly affected. Their diet conſiſted chiefly of tea, ſago, and portable ſoup.

I have avoided ſaying any thing about the manner in which the poiſon operates, as the inſtances have been too few, to draw any certain conſequences from them. I would only obſerve, that its action may be ſuch, as to affect and deprave ſome of the organs of ſenſation, without much irritating the firſt paſſages; becauſe in all the patients the diſorder of the ſtomach and bowels had long ceaſed before the other ſymptoms went off. And I was confirmed in this opinion by a circumſtance which

afterwards

afterwards happened to Captain COOK, who, having eaten a ſmall piece of the liver of another kind of fiſh (a *tetraodon)* was not ſenſible of being hurt by it, till waking in the night, and calling for a draught of water, he neither could feel the veſſel with his hands, nor was ſenſible of its weight when he graſped it. On the other hand, it was remarked, that ſome of the other gentlemen, who had likewiſe eaten of that fiſh, had alſo a vomiting and looſeneſs. The difference, perhaps, depended on the quantity taken into the ſtomach, and the particular conſtitution of the perſon.

I ſhall only add here, that, having been favoured by Mr. BANKS with a ſight of his drawings, I find the *Sparus Pagrus* of LINNÆUS to be the fiſh which that eaten by our people moſt reſembles. It is probable, that it is the ſame fiſh that QUIROS found to be of a poiſonous nature; but at the ſame time I muſt obſerve, that it may well be doubted, whether this ſpecies is always poiſonous, as our men ate another of the ſame ſort about a month after, without being affected by it. I am, &c.

SATURDAY, July 23, 1774, on board His Majeſty's ſhip the Reſolution, off the Iſland Malicolo, in The South Sea, three fiſh, of the ſame ſpecies, that had been caught, being dreſſed for dinner, affected all thoſe, who ate of them, in an uncommon manner; but five perſons, who had eaten of one of them, were more ſeverely attacked than the reſt. Immediately after eating, nothing was felt but ſome uneaſineſs (or ſuch pain as follows

from ſwallowing any acrid ſubſtance) in the mouth and throat. About two in the afternoon, ſome felt an uneaſineſs in the ſtomach, with an inclination to vomit; but it was near the evening before thoſe who ſuffered moſt were affected. The ſymptoms at firſt were univerſal laſſitude and weakneſs, followed by a retching; and in ſome, by gripings and looſeneſs. To theſe ſucceeded a fluſhing heat and violent pains in the face and head, with a giddineſs and increaſe of weakneſs; alſo a pain, or, as they expreſſed it, a burning heat in the mouth and throat. Some had the mouth affected in ſuch a manner, that they imagined their teeth were looſe; which might really be the caſe, as a conſiderable ſpitting attended this ſymptom. The pulſe all this time was rather ſlow and low. The retching and looſeneſs did not laſt long; but the pain and heat of the head were extended to the arms, hands, and legs. The patients continued in this manner all the night, but with ſome intervals of eaſe. Towards the morning, the pains, eſpecially thoſe in the legs and arms, but more particularly about the knees, were ſeverer than before. Theſe would ſometimes remit and frequently ſhift, or be more violent in one place than in another. Sometimes the pain would remove ſuddenly from the legs, and fix in the head; the palms of the hands were hot; and the fingers, legs, and toes, felt often as if benumbed: nay, the whole limbs became in ſome meaſure paralytic, the ſick perſon being unable to walk unleſs ſupported. Although there appeared no ſwelling in the face, it might be obſerved

to have a ſort of ſhining or gloſs upon it; and the patient ſometimes imagined his noſe was grown to a great ſize.

24th, In the forenoon they continued much the ſame; but ſome, after ſleeping, were rather eaſier; and one had a copious ſpitting, which, however, gave him no relief, for at noon the pains in his limbs ceaſing were removed to his head, which they affected violently with a ſenſe of throbbing and great heat; nor were there any of the patients, but this one, who complained much of thirſt during the illneſs.

Another, in particular, had the pains in his knees ſo increaſed, that they made him cry out. The uneaſineſs at the ſtomach and heat of the throat in all had nearly ceaſed. When the *mucus* about the *fauces* was forced away by ſtraining, it felt hot, and left the ſame ſenſation about the throat for ſome time. In the afternoon, moſt of them grew much eaſier, but continued weak; and two, who now ſeemed better than they had been before, complained of heat and ſoreneſs in their hands and feet.

25th, All five had reſted tolerably in the night; but complained of weakneſs and ſoreneſs of the mouth, with heat in the hands and feet. One, who had been rather worſe than the others, ſtill had a conſiderable ſpitting.

26th, All continued better, but the pains were not entirely gone. The great weakneſs, with heat in the hands and feet, were ſtill general complaints, and the ſoreneſs in the mouth remained in ſome. The one mentioned as having a large diſcharge of *ſaliva*, continued ſpitting;

ſpitting; and another began to have the ſame complaint, though in a leſs degree.

27th, One of the five had no other complaint but a diſagreeable ſenſation on rubbing his ſkin in any part of his body. Another, as yeſterday, mentioned a ſlight giddineſs, weakneſs, &c. A third, who had been the worſt of all, and who had taken ſome purging ſalts, was much better. The other two, who had ſeemed ſo well the day before, became worſe at night; one of them, who before had told me of violent pains in his knees, had a return of the ſame ſymptom; the other had pains in his legs, and an univerſal uneaſineſs.

28th, They were all conſiderably better, except one, who had been ſeemingly well the night before, but complained now of much weakneſs, and flying pains in his limbs.

29th, All of them mended, but ſtill complained of wandering pains in the limbs, weakneſs and heat in their hands and feet.

30th, Continued as yeſterday. At times they ſeemed quite well; but, in the morning, they complained of more weakneſs than in the preceding evening; and the pains, which generally appeared to be almoſt gone in the day, returned at night.

31ſt, All were better, but not without ſome ſlight pains and a weakneſs in the morning; and ſome ſtill felt a diſagreeable heat in their hands and feet, and others in their mouth.

Auguſt 1, One had no complaint. The reſt not altogether free from pains, and a ſenſe of wearineſs or weakneſs.

2d, All were pretty free from pain; but one had ſtill too much heat in his hands.

3d, All recovered; ſome trifling pains and a little weakneſs excepted.

Theſe notes I kept of the five who had eaten of one fiſh. With regard to thoſe who had eaten of the other two fiſh, they were not ſo ſeverely handled. No ſigns of illneſs appeared amongſt them till night; ſome had then a *nauſea*, retching, and ſome looſe ſtools. Others felt only pains in the backs, arms, and legs, as in a rheumatiſm; but it was obſerved, that in all, the face was more or leſs affected with an uneaſy ſenſe of ſtiffneſs. All theſe, though at firſt ſlightly ailing, and though the ſymptoms were later in coming on, had this circumſtance attending them, that they were all worſe next day in the evening.

On the 25th, they continued much the ſame as on the day before in the afternoon; but, towards night, they grew ſomewhat better. They had pains in their arms and legs, with a weakneſs and ſenſe of heat on the ſurface of the body.

26th, All complained in the ſame manner; and, though the pains were leſs, they continued, often ſhifting ſuddenly from one place to another, and the weakneſs rather increaſed.

27th, Two of them, who had ſuffered leaſt, remained much the ſame. The others were ſenſibly better.

28th, Moſt of them had wandering pains in their arms and legs, but were, in other reſpects, viſibly better. One who, for the firſt two or three days, had ſcarcely complained, ſaid, that this day he had a head-ach and pains in his legs and arms.

29th, None of them yet perfectly recovered; all complaining of leſſer pains in their legs, arms, or back.

30th, All continue much the ſame.

31ſt, All better, but not altogether free from pains and weakneſs.

Aug. 1ſt, Some were recovered, and the reſt better.

2d, All of them were pretty well; and they continued ſo.

Several of our dogs, who had eaten of theſe fiſh, and eſpecially of the guts and bones, ſeemed affected in a higher degree than the men. Their illneſs might, perhaps, have begun in the night, but was not perceived till next morning. One, in particular, had violent retchings, a *paralyſis* (eſpecially of the hind legs), lay down, rolled, howled, and ſhewed other ſigns of great pain. More *ſaliva*, or froth, hung about his mouth; and, when fatigued with ſtruggling, would fall down, and ſeemingly breathe with great labour. Two of them continued in the ſame way all day; though others that had eaten as much appeared but ſlightly affected, their principal ſymptom being only weakneſs in the hind legs. It was

obſerved, that moſt of them were troubled with a ſwelling of the *penis*.

One lay the firſt day, all the afternoon, without being able to move, but groaned perpetually, and lay in appearance in great anguiſh.

Next day, they ſeemed all ſomewhat better, except one, to whom tobacco-juice had been given the day before, to make him vomit: he died in the afternoon.

On the third day, though the dogs were more free from pain, yet they continued almoſt motionleſs, nor did they begin to eat.

On the fourth day, they were all much better, the worſt of them running about, and eating his victuals.

On the fifth, all of them ſeemed recovered, one excepted, who had not been ſo ſoon or ſo violently attacked as the others. This remark was made of the men likewiſe; to wit, that thoſe who were more ſlightly and later attacked continued ill as long as the others. Some days after, the ſame dog became ſo paralytic in his hind legs, that he could not ſtand; but afterwards he recovered the uſe of them pretty well.

A hog, who had eaten of the offals, died next morning; as did a perroquet on the ſecond day, which had got from his maſter ſome of the boiled fiſh. It will be proper to add, that another hog died, which had fed on the entrails of that fiſh whereof Captain COOK had eaten a bit of the liver; and that a dog, which about three weeks after had eaten of a fiſh of the ſame ſpecies, died, after a lingering illneſs, of the ſame nature with that which had affected others of his kind.

XXXVIII. *Ex-*